



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,461	07/11/2005	Shigeru Sugaya	SONYJP 3.3-1048	8945
530 7590 07/21/2010 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER CASCA, FRED A	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 07/21/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/506,461	Applicant(s) SUGAYA, SHIGERU	
	Examiner FRED A. CASCA	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicant's amendment filed on March 24, 2010. Claims 1-13 and 15-25 are still pending in the present application. **This Action is made FINAL.**

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 9-13 and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaoguz (US 2002/0159544 A1) in view of Watanabe (US Pub. No. 2006/0044436 A1) and further in view of Allen et al (US 2003/0114204 A1)

Referring to claim 1, Karaoguz discloses a wireless communication apparatus communicating with another wireless communication apparatus in an autonomous distributed network without a designated control station apparatus (Fig. 1 and par. 5 and 7, "Ad hoc"), said wireless communication apparatus comprising frame period setting means for setting a predetermined frame period for each wireless communication apparatus (par. 40, "settings for received frames"); data slot setting means for setting slots serving as data transmission units (par. 63, "time slots"); and reception slot setting means for setting at least one reception slot for receiving a signal in said predetermined frame period (par. 63, "slots", note that slots are used. Thus, signals are transmitted and also received in slots which implies that slots have been set for receiving).

Art Unit: 2617

Karaoguz further discloses that a predetermined frame period for transmission of a beacon signal by the wireless communication apparatus (Par. 64, “The network beac is transmitted at the beginning of each superframe carrying WPAAN specific parameters”).

Karaoguz does not specifically disclose scan period setting means for setting a scan period longer than said predetermined frame period.

Watanabe discloses that a scan period and frame period can be varied (Fig. 6 and paragraph 58, “1H represents one horizontal scan period, and 1V represents one frame period”).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the apparatus of Karaoguz by incorporating the teachings of Watanabe, for the purpose of providing flexibility in assigning scanning time, thus efficient use of communication resources.

Karaoguz does not specifically disclose a scan operation period setting means over a time of the predetermined frame period other than a time set for transmission of a beacon signal in the format claimed.

Allen discloses a scan operation period setting means over a time of the predetermined frame period other than a time set for transmission of a beacon signal (Figures 4-7C, and Par. 26-31 and 32-34, note that there is separate beacon san time and a beacon transmit time within a frame, thus, there has to be an operation period setting means to set a san period over a time of the predetermined frame period, as shown in figure 7c, which is other than a time set for transmission of a beacon signal).

Art Unit: 2617

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the above combination, such that a beacon scan period is set to scan during the scan interval which will be a different interval than the beacon transmit interval, such as Allen's, for the purpose of avoiding collisions in the communication and thus managing wireless operation more efficiently.

Referring to claim 2, the combo of Karaoguz/Watanabe/Allen discloses the wireless communication apparatus as set forth in claim 1, further comprising transmitting means for transmitting a beacon signal to another wireless communication apparatus at a predetermined timing of said predetermined frame period (par. 64, "beacon is transmitted"), wherein the beacon signal has information about a timing (inherent as signals are synchronized) of the reception slot set by said reception slot setting means; and receiving means for receiving a signal transmitted by said another wireless communication apparatus (par. 64).

Referring to claim 3, the combo of Karaoguz/Watanabe/Allen discloses the wireless communication apparatus as set forth in claim 2, wherein said receiving means receives the signal at a timing of the reception slot set by said reception slot setting means (Fig. 4B-4C and par. 63-64).

Referring to claim 4, the combo of Karaoguz/Watanabe/Allen discloses the wireless communication apparatus as set forth in claim 1, further comprising beacon transmitting means for transmitting a beacon signal at a timing of a head of the predetermined frame period (Fig. 4B-4C and par. 63-64).

Art Unit: 2617

Referring to claim 5, the combo of Karaoguz/Watanabe/Allen discloses the wireless Communication apparatus as set forth in claim 1, further comprising data transmitting means for transmitting data to another wireless communication apparatus (Fig. 1), storage means for storing timings of reception slots of other wireless communication apparatuses (par. 7, “synchronization”), and control means for making said data transmitting means transmit data at a timing of a reception slot of said another wireless communication apparatus when there is transmission data to be sent to the other wireless communication apparatus (Fig. 1 and 4A-4C and par. 7, 63-64 and).

Claims 11-13 recite features analogous to features of claims 1-3, thus they are rejected for the same reasons made in the rejection of claims 1-3.

Referring to claim 6, Karaoguz discloses a wireless communication apparatus for communicating with another wireless communication apparatus in an autonomous distributed network without a designated control station apparatus (Fig. 1 and par. 5 and 7, “Ad hoc”), said wireless communication apparatus comprising frame period setting means for setting a predetermined frame period by for each communication apparatus(par. 40, “settings for received frames”); data slot setting means for setting slots serving as data transmission units (par. 63, “time slots”); scanning means for receiving a beacon signal transmitted from another wireless communication apparatus over a time of said predetermined frame period (Fig. 1 and 4A-4C, note that scanning for beacon signals is inherent in wireless communication).

Art Unit: 2617

Karaoguz further discloses that a predetermined frame period for transmission of a beacon signal by the wireless communication apparatus (Par. 64, “The network beac is transmitted at the beginning of each superframe carrying WPAAN specific parameters”).

Karaoguz does not specifically disclose scan period setting means for setting a scan period longer than said predetermined frame period.

Watanabe discloses that a scan period and frame period can be varied (Fig. 6 and paragraph 58, “1H represents one horizontal scan period, and 1V represents one frame period”).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the apparatus of Karaoguz by incorporating the teachings of Watanabe, for the purpose of providing flexibility in assigning scanning time, thus efficient use of communication resources.

Karaoguz does not specifically disclose a scan operation period setting means over a time of the predetermined frame period other than a time set for transmission of a beacon signal in the format claimed.

Allen discloses a scan operation period setting means over a time of the predetermined frame period other than a time set for transmission of a beacon signal (Figures 4-7C, and Par. 26-31 and 32-34, note that there is separate beacon san time and a beacon transmit time within a frame, thus, there has to be an operation period setting means to set a san period over a time of the predetermined frame period, as shown in figure 7c, which is other than a time set for transmission of a beacon signal).

Art Unit: 2617

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the above combination, such that a beacon scan period is set to scan during the scan interval which will be a different interval than the beacon transmit interval, such as Allen's, for the purpose of avoiding collisions in the communication and thus managing wireless operation more efficiently.

Referring to claim 9, the combination of Karaoguz/Watanabe/Allen disclose the wireless communication apparatus as set forth in claim 6, and further disclose beacon transmitting timing control means for controlling a timing of transmission of its own beacon so as not to collide with the beacon of the other wireless communication apparatus, wherein the scanning means receives a beacon from another wireless communication apparatus (Fig. 1 and 4A-4B and their corresponding discussions).

Referring to claim 10, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication apparatus as set forth in claim 6, and further disclose transmitting means for transmitting a beacon signal at a predetermined timing of the frame period, wherein the beacon signal has information relating to a beacon transmitting slot transmitted from another wireless communication apparatus obtained by said scanning means (Fig. 1 and 4A-7C and their corresponding discussions).

Referring to claim 15, claim 15 defines a wireless communication method reciting features analogous to the features of the apparatus of claim 6, thus it is rejected for the same reasons used in the rejection of claim 6.

Art Unit: 2617

Referring to claim 16, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication method as set forth in claim 15, further comprising transmitting a beacon signal that has information about the a timing of the set reception slot and informing its presence to another wireless communication apparatus located in the neighborhood (Fig. 4A-4C, and par. 63-64).

Referring to claim 17, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication method as set forth in claim 15, further comprising having a wireless communication apparatus that engages in reception processing at a timing of said set reception slot and receives data transmitted from another wireless communication apparatus (Fig. 1 and 4B-4C).

Claim 18 recites features analogous to the features of claim 4. Thus, the combination of Karaoguz/Watanabe/Allen discloses all elements of claim 4.

Referring to claims 19 and 22, claims 19 and 22 defines a wireless communication method reciting features analogous to the features of the system of claim 6, thus the combination of Karaoguz/Watanabe/Allen discloses all elements of claim 19 and 22 (please see the rejection of claim 6 above).

Referring to claim 20, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication method as set forth in claim 19, and further discloses a step of managing a timing of the reception of the beacon signal transmitted from said other wireless communication apparatus and a timing of the reception slot (Fig. 1 and 4B-4C and par. 7).

Art Unit: 2617

Referring to claim 21, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication method of claim 19 and further disclose storing a timing of a beacon signal from another Wireless communication apparatus located in the neighborhood and a timing of the reception slot and engaging in a transmitting operation at a timing of the reception slot of the another communication apparatus when there is data destined for the another wireless communication apparatus (Karaoguz, Fig. 1-4C, and par. 7).

Referring to claim 23, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication method of claim 22 and further disclose receiving a beacon signal of another wireless communication apparatus located in the neighborhood, managing a timing of the reception of said beacon signal and a timing of the reception slot (Fig. 1-4C), and transmitting a signal at the timing of the reception slot of the corresponding wireless communication apparatus when communicating directed to the another wireless communication apparatus (Par. 7-8 and 63-64 and Fig. 1-4C).

Referring to claim 24, the combination of Karaoguz/Watanabe/Allen disclose the wireless communication method of claim 22 and further disclose the step of receiving a beacon from another wireless communication apparatus by said scanning processing and controlling a timing of transmission of its own beacon so as not to collide with the beacon of the other wireless communication apparatus (Par. 7-8 and 63-64 and Fig. 1-4C).

Referring to claim 25, the combination of Karaoguz/Watanabe/Allen disclose the wireless communication method of claim 22 and further disclose the step of transmitting a

Art Unit: 2617

beacon signal at a predetermined timing of the predetermined frame period, wherein the beacon signal has information relating to a beacon transmitting slot transmitted from another wireless communication apparatus obtained by said scanning processing (Par. 7-8 and 63-64 and Fig. 1-4C).

4. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaoguz (US 2002/0159544 A1) in view of Watanabe (US Pub. No. 2006/0044436 A1) further in view of Allen et al (US 2003/0114204 A1)), and further in view of well known prior art (MPEP 2144.03).

Referring to claim 7, the combination of Karaoguz/Watanabe/Allen discloses the wireless communication apparatus as set forth in claim 6, further comprising transmitting means for transmitting a signal at the timing of the reception slot of the corresponding wireless communication apparatus when there is data directed to another wireless communication apparatus (Fig. 1A, and col. 5, lines 20-45, “communications between nodes of different islands”).

The combination does not disclose managing means for converting a timing of said received beacon signal and a timing of the reception slot into its own slot positions and managing same.

The examiner takes official notice of the fact that converting a timing of a received beacon signal and a timing of the reception slot into its own slot positions and managing same is well known in the art particularly in dynamic slot allocation schemes.

Art Unit: 2617

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the combination for the purpose of providing allocating resources efficiently.

Referring to claim 8, the combination of Karaoguz/Watanabe/Allen and Well-known art disclose the wireless communication apparatus as set forth in claim 7 and further disclose control means for making transmitting means transmit a signal at the timing of the reception slot of the corresponding wireless communication apparatus when there is data directed to the other wireless communication apparatus, the scanning means obtaining the timing of the beacon signal and the timing of the reception slot from said other wireless communication apparatus (Fig. 1A-7B and their corresponding discussions).

Response to Arguments

5. Applicant's arguments with respect to claims 1-13 and 15-25 have been fully considered but they are moot in view of new grounds of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2617

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached at (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred A. Casca/

Examiner, Art Unit 2617

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617